

Notes on nasal mites of birds from South Africa  
with description of a new species  
(Acarina : Rhinonyssidae).

by

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(Submitted through F. Zumpt, South African Institute for  
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The present paper deals with a small collection of parasitic mites found by Dr F. Zumpt, of the South African Institute for Medical Research, Johannesburg, in the nasal cavities of birds.

The mites of this batch comprise six species, including a new one, and all belong to the family Rhinonyssidae, which is known to be confined strictly to birds. They were collected in two localities in Bechuanaland, during 1955—1956.

I wish to express my thanks to Dr Zumpt for his kindness in sending me the interesting material which forms the basis of this paper.

During the last ten years several papers dealing with Ethiopian rhinonyssid mites have been published in South Africa by Lawrence (1948), Zumpt and Patterson (1951), and Zumpt and Till (1955). These mites have also been studied in the Belgian Congo by Fain (1956).

I) Genus PTILONYSSUS Berlese and Trouessart 1889.

1) **Ptilonyssus lanii** Zumpt and Till.

*Ptilonyssus lanii* Zumpt and Till, J. ent. Soc. S. Afr., 18, 1955, p. 79; Fain, Rev. Zool. Bot. afr. 1956, 53, p. 143.

Six specimens of this species, all females, were collected from *Lanius collaris* L. in Debeete (20. XII. 1955), and five specimens, comprising four females and one male, from *Muscicapa striata* in the same locality (20.I.1956). The specimens from *Muscicapa* are slightly larger than those from *Lanius* but in their other characteristics they agree well with the original description. All these specimens, those from *Lanius* as well as the only paratype that I have been able to examine, bear a pygidial shield not mentioned in the original description.

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2) **Ptilonyssus astridae** Fain.

*Ptilonyssus astridae* Fain. *Rev. Zool. Bot. afr.* 1956, **53**, p. 141.

This small species was described from a *Lagonosticta*. Since then it has been found again on several other species of Passeriform birds, all belonging to the subfamily Estrildinae. The 2 female specimens collected from *Granatina granatina* (Debeete, 23.I.1956) correspond well with the type.

3) **Ptilonyssus echinatus** Berlese and Trouessart.

I attribute to this species one nymph, in the last stage before moulting. It already shows the podosomal shield and the thick spines which are typical of this species. Host: *Hirundo rustica* L. (Tsessebe, 3.I.1956).

II) Genus **STERNOSTOMA** Berlese and Trouessart 1889.

1) **Sternostoma cuculorum** Fain.

*Sternostoma cuculorum* Fain. *Rev. Zool. Bot. afr.* 1956, **53**, p. 155.

Twelve specimens, all females, were collected from *Cuculus canorus* in Tsessebe (3.I.1956). The type of this species was described by me from *Cuculus solitarius* (Astrida, Ruanda — Urundi).

2) **Sternostoma laniorum** Fain.

*Sternostoma laniorum* Fain. *Rev. Zool. Bot. afr.* **53**, p. 156.

The only specimen collected, one female, comes from *Lanius collurio* L. (Debeete, 20.XII.1955). It is slightly smaller than the type I described from the same host in Astrida. Length of the idiosoma 0,5 mm; width 0,293 mm. Podosomal shield 0,185 mm × 0,176 mm. Opisthosomal shield 0,16 mm × 0,14 mm.

3) **Sternostoma cisticolae** n.sp.

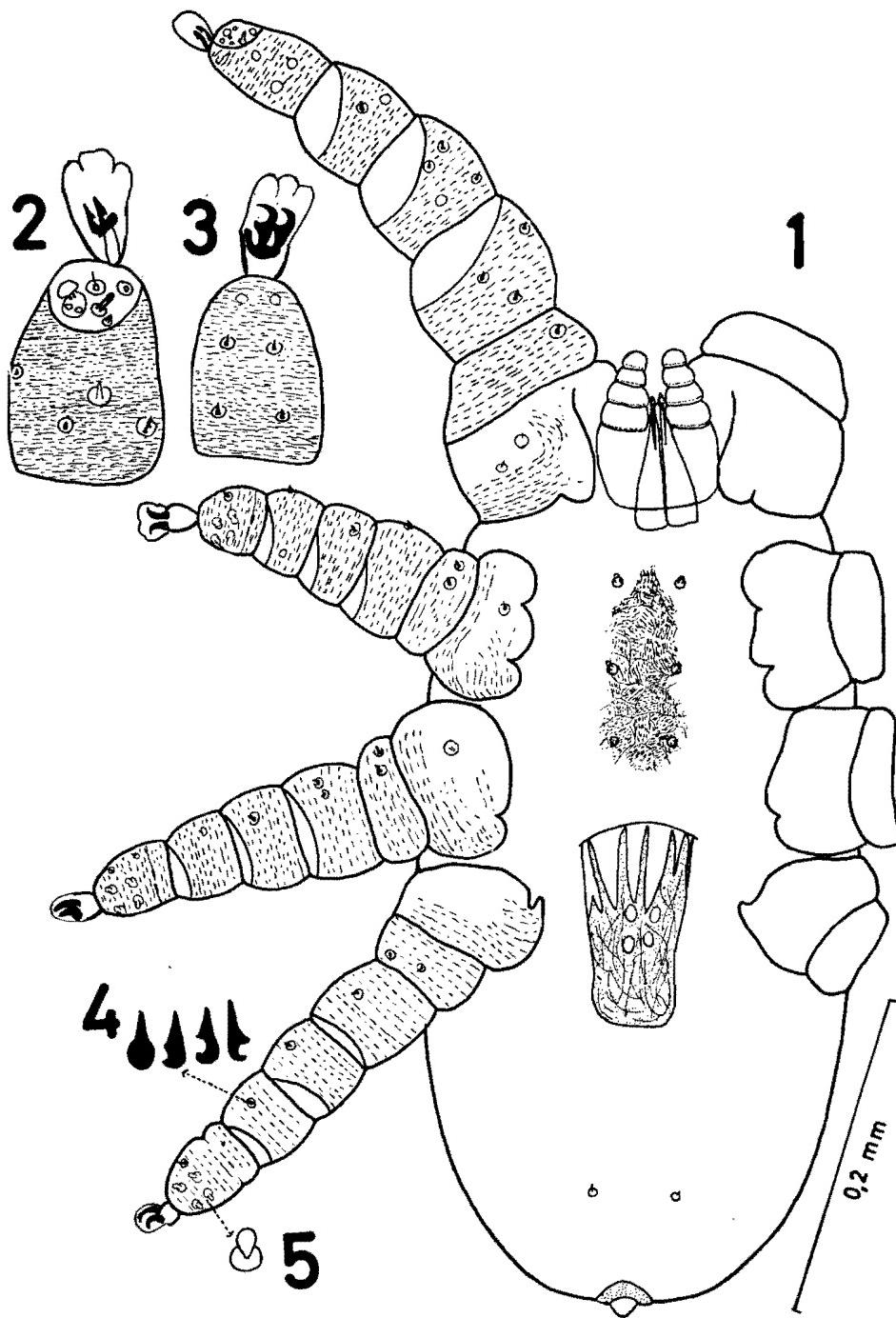
This species can easily be distinguished from the other species of the genus *Sternostoma* by its podosomal plate which is nearly twice as long as broad (Fig. 1—8). *Female*: Length of idiosoma (gnathosoma not included)

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EXPLANATION OF FIGURES.

Fig. 1—5 *Sternostoma cisticolae* n.sp. Female.

Ventral view (1). Tarsi I (2) and IV (3).  
in dorsal view. Spines of the legs (4).  
Disk-shaped hairs of the tarsi (5).



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0,54 mm., breadth between 3rd and 4th pairs of legs 0,282 mm. (paratypes  $0,575 \times 0,26$  mm. and  $0,615 \times 0,265$  mm.). The dorsum is covered by two finely punctate plates (fig. 6). The podosomal plate is 0,26 mm. long and 0,146 mm. wide (paratypes  $0,252 \times 0,144$  mm.,  $0,255 \times 0,138$  mm. and  $0,252 \times 0,135$  mm.). Length/width is 1,7—1,9. This plate bears 10 very small, inconspicuous hairs. The opisthosomal shield is 0,147 mm. long (paratype 0,136) and 0,104 mm. wide (paratype 0,100); its anterior margin is broader than its posterior one. It bears 4 inconspicuous hairs. Stigma without peritreme, situated dorsally between the 3rd and 4th pairs of legs. Ventrally there is a well sclerotised sternal shield which is 0,122 mm. long and 0,05 mm. wide, its margin being somewhat indistinct. This plate shows a network of thin lines interrupting the punctations rather regularly. There are three pairs of equidistant, very short, ovoid, sternal hairs, arranged in two parallel rows. The genital plate is 0,13 mm. long, and 0,068 mm. wide at the anterior border and 0,057 mm. at the posterior border. It is finely punctate and covered with lines most of which are directed longitudinally. The abdomen bears 3 pairs of very short hairs. The anal plate is oval and very weakly sclerotised. It bears a pair of short ovoid setae level with the posterior border of the anus. Anus terminal and situated in the middle of the anal plate or a little more anteriorly. There is neither a cribrum nor a 3rd hair. The gnathosoma, partly ventral, is 0,105 mm. long and 0,072 mm. wide. Palp 0,054 mm. long. There are 4 palpal segments, all broader than long. The 3 apical segments bear some very small spines on the dorsal surface (fig. 7). Chelicerae wide basally, tapering gradually towards the apex. They are 0,072 mm. long. Chela very short 0,0045 mm. long (fig. 8). Legs thick, with a fine transverse striation. Leg I much longer and wider than the following ones. The measurements of the legs are as follows:

- I 0,360 mm. (femur 0,093 mm. wide)
- II 0,223 mm. ( „ 0,072 mm. „ )
- III 0,266 mm. ( „ 0,072 mm. „ )
- IV 0,300 mm. ( „ 0,068 mm. „ )

All the segments, except the coxae, bear very small spines of characteristic shape (fig. 4). These spines are more numerous and longer dorsally (0,003—0,005 mm.) than they are ventrally (0,002—0,004 mm.). All coxae bear 1 or 2 very short hairs. Tarsi II - IV bear several inconspicuous very short, transparent, and flattened, disk-shaped hairs (fig. 5). Sensorial plate of tarsus I bears 1 short rod-like hair, 1 mushroom-shaped hair, 1 very slender hair enlarged basally, and several very short ovoid hairs (fig. 2). The claws of the legs are minute, those of leg I are modified and different in appearance from those of the other legs.

**Male.** The only specimen of the collection is very weakly sclerotised and therefore its study is made difficult. Idiosoma 0,410 mm. long, 0,25 mm. wide. Podosomal shield 0,216 mm. long, 0,12 mm. wide. Opisthosomal shield

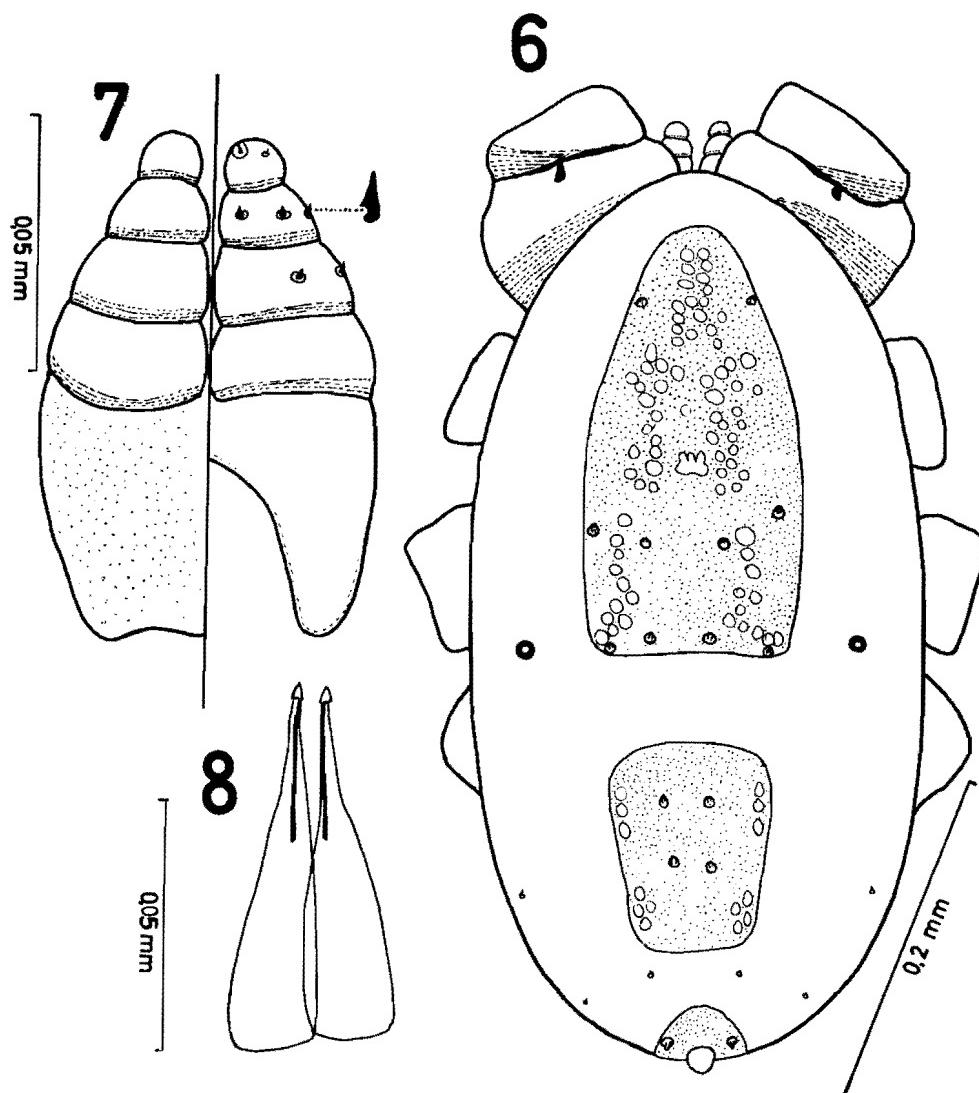


Fig. 6—8 *Sternostoma cisticolae* n.sp. Female.  
Dorsal view (6). Gnathosoma (7). Chelicerae (8).

0,108 mm. long, 0,079 mm. wide. Length of the gnathosoma: 0,086 mm., of the palps: 0,044 mm., of the chelicera: 0,061 mm., of the chela: 0,018—0,02 mm.

**Host:** *Cisticola chiniana*.

**Locality:** Debeete, Bechuanaland (22.VII.1956).

Types and paratypes: 20 females and 1 male.

#### BIBLIOGRAPHY.

- FAIN, A. (1956) Les Acariens de la famille *Rhinonyssidae* Vitzthum 1935 parasites parasites des fosses nasales des oiseaux au Ruanda-Urundi (Note préliminaire). *Rev. Zool. Bot. afr.* **53**, 131.
- FAIN, A. (1956) Note complémentaire sur les *Rhinonyssidae* au Ruanda-Urundi. *Ibid.* **53**, 392.
- LAWRENCE, R. F. (1948) Studies on some parasitic mites from Canada and South Africa. *J. Parasit.* **34**, 364.
- ZUMPT, F. and PATTERSON, P. M. (1951) Further notes on Laelapid mites parasitic on vertebrates. A preliminary study of the Ethiopian fauna. *J. ent. Soc. S. Afr.* **14**, 63.
- ZUMPT, F. and TILL, W. M. (1955) Nasal mites of birds hitherto known from the Ethiopian Region, with keys and descriptions of nine new species (Acarina-Laelaptidae). *J. ent. Soc. S. Afr.* **18**, 60.